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Applicant / Owner: Nokia Corporation

Title: Method and device for downlink packet access signaling...

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Amended Claims

1. Method for High-Speed Downlink Packet Access (~~HSDPA~~) signaling for Time Division Duplex (TDD)-mode of a wireless communication system, comprising the following steps:
 - 5 a base station (~~node B~~) sending indication information to a mobile terminal device (UE);
 - the mobile terminal device (UE) identified by the said indication information receiving signaling information;
 - 10 said mobile terminal device, based on the said signaling information, decoding packet data information;
 - wherein a High-Speed Indicator designates a specific mobile terminal device accessible in a downlink channel,
 - characterized by the steps of :
 - including said High-Speed Indicator (HI) into the slot structure of a Paging Indicator Channel (PICH), said High-Speed Indicator (HI) comprising a plurality of identification bits, each identification bit being assigned,
- 15 2. Method according to claim 1, wherein said plurality of identification bits are four identification bits arranged in two pairs each of two bits on either side of and adjacent to a midamble area of said Paging Indicator Channel (PICH).
- 20 3. Method according to any one of the preceding claims, comprising following further steps:
 - dividing a plurality of mobile terminal devices upon a plurality of groups.
- 25 4. Method according to claim 3, comprising following further steps:
 - assigning certain periods of time to each group, wherein each mobile terminal device of a group receives data transmitted within said periods of time assigned to said respective group via said Paging Indicator Channel (PICH).
- 30 5. Method according to claim 3 or claim 4, comprising following further steps:
 - assigning a High-Speed Indicator (HI) to each mobile terminal device of a group.
6. Method according to any one of the claims 3 to 5, wherein said periods of time of a group are assigned according to the data traffic of the group.

7. Method according to any one of the preceding claims, comprising following further steps:

- receiving information on said Paging Indicator Channel (PICH) by a mobile terminal device.

5 8. Method according to any one of the preceding claims, comprising the following further steps:

- receiving signaling information on a High-Speed Shared Control Channel (HS-SCCH) by a mobile terminal device.

9. Method according to claim 7, comprising the following further steps:

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- receiving and decoding data packets on a Downlink Shared Channel (DSCH) by a mobile terminal device,

wherein the receiving and decoding step employs said signaling information received on said High-Speed Shared Control Channel (HS-SCCH).

15 10. Method according any one of the preceding claims, comprising following further steps:

- transmitting transmission related information.

11. Method according any one of the preceding claims, wherein said identification bits codes a binary address of a mobile terminal device.

20 12. Method according claim 1 to 11, wherein said identification bits codes a logical address of a mobile terminal device.

13. Method according any one of claims 3 to 6, wherein said dividing a plurality of mobile terminal devices upon a plurality of groups is based on the data traffic.

14. Method according any one of claims 3 to 6, wherein said dividing a plurality of mobile terminal devices upon a plurality of groups is based on an N channel Hybrid Automatic Repeat Request (HARQ) scheme.

30 15. Computer program for executing method for High-Speed Downlink Packet Access (HSDPA) for Time Division Duplex (TDD) mode of a wireless communication system, comprising program code means for carrying out each of the steps of any one of the claims 1 to 14 when said program is run on a computer, a network device, a mobile device, or an application specific integrated circuit.

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16. Computer program product comprising program code means stored on a computer readable medium for carrying out each of the steps of the method for High-Speed Downlink Packet Access (HSDPA) for Time Division Duplex (TDD) mode of a wireless communication system of any one of claims 1 to 14 when said program product is run on a computer, a network device, a mobile device, or an application specific integrated circuit.

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17. Mobile terminal device for High-Speed Downlink Packet Access (HSDPA) for Time Division Duplex (TDD) mode of a wireless communication system, comprising means adapted to perform each of the steps of the method for High-Speed Downlink Packet Access (HSDPA) for Time Division Duplex (TDD) mode of a wireless communication system according to any one of the claims 1 to 14.

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18. Wireless communication system for High-Speed Downlink Packet Access (HSDPA) for Time Division Duplex (TDD) mode, comprising means adapted to perform a method for High-Speed Downlink Packet Access (HSDPA) for Time Division Duplex (TDD) mode of a wireless communication system according to any one of the claims 1 to 14.

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